

The article considers the definitions of "innovation" and "innovation activity", which are presented in domestic and foreign scientific spaces. Systematization of definitions in two directions is carried out: 1) reference and abstract publications; 2) legislative acts and normative documents. The author establishes that due to interpretations of the term "innovation", which differ depending on the areas of activity, in the modern domestic educational discourse there is no unambiguous definition. In domestic reference sources, the concept of "innovation" is broader than in foreign ones, but, in general, refers to new methods, tools, and products. Besides, the article points out that the definition of "innovation" is virtually absent in most domestic reference books in contrast to foreign literature, where this term is most often used.

Moreover, the author notes that the concept of "innovation activity" exists in the Ukrainian legal framework, in particular in the Law of Ukraine "On investment activity" (1991) and the Law of Ukraine "On innovation activity" (2002). The study also states that international legal acts and regulatory documents contain a single definition of innovation, which, despite its name in the original version – research and development (R&D) – fully corresponds to the essence of the term "innovation activity" in the Ukrainian scientific space. As for higher medical education in the US, the definition of innovation is identical to the one formulated in the Frascati Manual (2015). Beyond this document, innovation activity is a systematic creative effort to increase the stock of knowledge, including the knowledge of humanity, culture, and society, and to identify new areas of application of existing knowledge. Among other things, innovation activity must meet five main criteria: novelty; creativity; uncertainty; consistency; ability to transmit and/or reproduce.

Concerning the prospects of further research, we are going to analyze scientific and educational works of domestic and foreign scientists regarding the interpretation of the terms "innovation" and "innovation activity", their use in medical education.

Key words: domestic educational space, foreign educational space, innovation, innovation activity, higher medical education.

У статті розглянуто дефініції понять «інновація» та «інноваційна діяльність», представлені у вітчизняному та зарубіж-

ному наукових просторах. Здійснено систематизацію визначень за двома напрямками: 1) довідкові та реферативні видання; 2) законодавчі акти та нормативні документи. Встановлено, що з огляду на трактування терміна «інновація», які відрізняються залежно від сфер діяльності, у сучасному вітчизняному освітньому дискурсі відсутня його однозначна дефініція. У вітчизняних довідкових джерелах поняття «інновація» є ширшим, ніж у зарубіжних, проте загалом позначає нововведення, нові методи, засоби та продукти діяльності. З'ясовано, що визначення поняття «інноваційна діяльність» практично відсутні у більшості вітчизняних довідкових видань на противагу зарубіжній літературі, де найчастіше цей термін використовують.

Поняття «інноваційна діяльність» є в українській нормативно-правовій базі, зокрема у Законі України «Про інвестиційну діяльність» (1991) та Законі України «Про інноваційну діяльність» (2002). Констановано, що у міжнародних законодавчих актах і нормативних документах фігурує єдине визначення інноваційної діяльності, що, попри свою назву в оригінальному варіанті – наукові дослідження та розвиток (research and development), цілком відповідає сутності терміна «інноваційна діяльність» в українському науковому просторі. Що стосується вищої медичної освіти США, то визначення інноваційної діяльності ідентичне сформульованому в «Керівництві Фраскати» (2015). За цим документом, інноваційна діяльність є систематичною творчою роботою з метою збільшення запасу знань, серед яких знання людства, культури й суспільства, і визначення нових галузей застосування наявних знань. Інноваційна діяльність має задовольняти п'ять основних критеріїв: новизну; креативність; невизначеність; систематичність; здатність до передачі та / або відтворення.

Перспективами подальших розвідок є огляд наукових і навчально-методичних праць вітчизняних і зарубіжних учених щодо тлумачення термінів «інновація» та «інноваційна діяльність», їх використання у медичній освіті.

Ключові слова: вітчизняний освітній простір, зарубіжний освітній простір, інновація, інноваційна діяльність, вища медична освіта.

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Problem statement. At the end of the XX – beginning of the XXI century, higher medical education became the object of interest of a large part of young people who received a full general education and chose a future profession. At all times, the motivation to enter medical schools is the desire to help humanity to be healthy, to create revolutionary new methods of treatment, to improve certain aspects in the process of updating medical education, and so on. Therefore, at the present stage of development, higher medical education is inextricably linked with innovation and innovation activities and is also

focused on the implementation of the world's best practices, ideas, and technologies.

Taking into account the fact that numerous reforms are currently taking place in the field of public health, the Law of Ukraine "On priority areas of innovation in Ukraine" dated 08.09.2011 № 3715-VI defines the introduction of new technologies and equipment for high-quality medical care, treatment, and pharmaceuticals as one of the strategic priority areas of innovation for 2011–2021 [8]. In addition, according to Article 1 of the Law of Ukraine "On Innovation Activity" of 04.07.2002 № 40-IV, the objects of innovation include

innovation programs and projects; new knowledge and intellectual products; production equipment and processes; organizational and technical solutions of production, administrative, commercial or other nature, which significantly improve the structure and quality of production and (or) social sphere, etc. [7].

Overview of recent researches and publications. The terms “innovation” and “innovation activity” are used in various spheres of human activity. Thus, O. Butenko, V. Dzhezdzhula, O. Zakharkin, O. Petrukh, N. Ravlyk, and J. Shumpeter (economics and enterprise management); O. Marushchenko, Y. Opanasyuk, T. Sobol, V. Tsvetkova, O. Chumak (social and philosophical aspects); A. Gorbun, Y. Mochalov, V. Chopyak, T. Yankovets (medicine); K. Angelovski, I. Dychkivska, O. Dubasenyuk, V. Kremen, M. Klarin, S. Nikolaenko, V. Slastyonin (education) and others consider the mentioned terminological constructs in their works.

Unrevealed aspects of the problem under study. Despite a significant number of works on the problems of innovation, there is no unambiguous definition of the concept of “innovation” in modern scientific discourse. In particular, the interpretation of innovation differs significantly within different disciplines. Thus, sociologists define innovation as “the process of introducing new elements into culture through discovery or imitation” [26, p. 57]. Representatives of the

business management field understand innovation as “the invention and implementation of management practices, processes, structures or technologies that are new and serve to achieve the goals of the organization in the future” [9, p. 825]. Researchers in the field of innovation interpret this concept in a broad sense – as “new combinations of existing knowledge and resources” [10]. Therefore, the issue of innovations and innovation activities, in particular, clarification of their interpretation in the field of higher medical education in both domestic and foreign scientific discourse, deserve special coverage.

The research aim is the systematization, analysis, and clarification of definitions of the concepts “innovation” and “innovation activity” existing in the domestic and foreign scientific spaces by 1) reference and abstract publications; 2) legislative acts and normative documents for their subsequent use in research on medical education.

Results. As can be seen from Table 1, in the domestic academic literature, the concept of “innovation” is interpreted much more broadly than abroad, but in general, it is used to denote innovation, new methods, tools, and products.

The search for definitions of the concept of “innovation activity” in domestic academic dictionaries allowed us to state their absence in most reference publications (the exception in this context is the free

Table 1

Definition of “innovation” in domestic and foreign academic dictionaries

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| Free explanatory dictionary | <i>Innovation</i> is a novation, the latest change or invention; new technology or product that is qualitatively ahead of the previous ones or significantly different from them [2]. |
| Large explanatory dictionary of the modern Ukrainian language | <i>Innovation</i> is a novation; a set of measures aimed at the introduction into the economy of new techniques, technologies, inventions, etc. [1]. |
| Short dictionary of current pedagogical terms | <i>Innovation</i> is a special organization of activity and thinking that covers the field of education and training. In a narrower sense, it is the process of mastering innovations, which includes: 1) new principles and technologies of teaching; 2) introduction and dissemination of existing pedagogical systems, individual methods, educational subjects, and disciplines; 3) technology of management and design of the innovation process [3]. |
| Cambridge Dictionary | <i>Innovation</i> is a new idea or method [13]. |
| Dictionary.com Dictionary | <i>Innovation</i> is something new or introduced in a different way [14]. |
| Merriam-Webster Dictionary | <i>Innovation</i> is a new idea, method, or device [15]. |
| Oxford Learner’s Dictionaries Dictionary | <i>Innovation</i> is a new idea, way of action; introduction of new tools, ideas, ways of action [16]. |

Table 2

Definition of the concept of “innovation activity” in domestic and foreign glossaries

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| Wikipedia – the free encyclopedia | <i>Innovation activity</i> is a type of activity related to the transformation of research and development, other scientific and technological achievements into a new or improved product introduced to the market, into an updated or improved technological process used in practice, or a new approach to the implementation of social services, their adaptation to the current requirements of society [5]. |
| Glossary of statistical terms OECD. Glossary of the European statistical service | <i>Innovation activity</i> is all the scientific, technological, organizational, financial, and commercial steps that actually lead to, or are intended to lead to, innovation. Innovation also includes research activities that are not directly related to the development of a specific innovation [17; 18]. |
| IGI Global Dictionary | <i>Innovation activity</i> is a complex of scientific, technological, organizational, financial, and commercial activities aimed at the commercialization of accumulated knowledge, technologies, and equipment [19]. |

encyclopedia Wikipedia), but in foreign publications of a reference and abstract nature, such information is available (see Table 2).

At the same time, in the foreign scientific space, the definition of “innovation activity” submitted by the OECD, or close to it, is most often used. It should be noted that this definition can also be found in legislation and regulations of the European and world level. Given these considerations, we think it appropriate to reflect the essence of the concepts under study, disclosed in domestic and international legal documents, in Table 3.

Authors of the OECD Recommendations on the Collection, Analysis and Use of Innovation Data “Oslo Manual 2018” (guidelines for collecting, reporting and using data on innovation) identify the following types of innovation activity:

- scientific innovation activity;
 - engineering, design and other types of creative innovation;
 - marketing innovation;
 - innovation activities related to intellectual property;
 - innovation training activities;
 - innovation activity for software and database development;
 - innovation activity related to the acquisition or lease of tangible assets;
 - managerial innovation activity [23].
- It should be noted that the term R&D (research and development) is used in international legislation and regulations to denote the phenomenon of innovation.

For example, the OECD Frascati Manual (2015) states that R&D involves systematic creative work to increase knowledge, including knowledge of humanity, culture, and society, and to identify new areas of application of existing knowledge. Innovation activity has a number of general characteristics, even if carried out by different performers, namely: focus on achieving specific or general goals; focus on achiev-

ing new results based on original concepts (and their interpretation) or hypotheses; lack of a clear vision of the end result (or at least the amount of time and resources needed to achieve it); there is a need for planning and funding (even when innovation is carried out by an individual); focus on obtaining results that could be freely transferred or sold in the market [22].

According to the Frascati Manual (2015), innovation activity must meet five main criteria such as novelty; creativity; uncertainty; regularity; ability to transmit and / or play [22].

All these criteria must be taken into account in the process of innovation activity on a permanent or episodic basis, covering the following activities:

- basic research – experimental or theoretical research to gain new knowledge about the main phenomena and observed facts, without specific application or use;
- applied research – original scientific research in order to obtain new knowledge; aimed primarily at achieving a specific practical goal;
- experimental development – systematic work based on knowledge gained from research and practical experience, and the production of additional knowledge aimed at creating new products and processes or improving existing products or processes [22].

Turning to US laws and regulations governing innovation in various areas, it should be noted that US government agencies at the federal level use the definition of innovation (R&D) in the Frascati Manual.

In particular, the Office of Management and Budget of the United States (OMB) sets budget rules for federal agencies. Part II of Circular A-11 deals with the development of the President's budget and provides recommendations for the submission of applications for funding by agencies to the OMB. Section 84 of the circular defines the budgetary powers, costs, and compensation for innovation, creation, and restoration of equipment for R&D [24]. Part II of Circular A-136 contains information on financial statements of federal agencies to the Federal Financial Manage-

Table 3

Definition of “innovation” and “innovation activity” in domestic and international regulations

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| Law of Ukraine “On Investment Activity” (1991) | <i>Innovation activity</i> is a set of measures aimed at creating, implementing, disseminating and implementing innovations in order to obtain a commercial and / or social effect, which are carried out through the implementation of investments in the objects of innovation activity [6]. |
| Law of Ukraine “On Innovation Activity” (2002) | <i>Innovations</i> are newly created (applied) and (or) improved competitive technologies, products or services, as well as organizational and technical solutions of production, administrative, commercial or other nature, which significantly improve the structure and quality of production and (or) social sphere. <i>Innovation activity</i> is an activity aimed at the use and commercialization of the results of research and development and leads to the release on the market of new competitive goods and services [7]. |
| OECD Guidelines for the Collection, Analysis and Use of Innovation Data “Oslo Guidelines 2018” | <i>An innovation</i> is a new or improved product or process (or combination thereof) that differs significantly from previous products or processes that were available to potential users (product) or previously implemented (process). <i>Innovation activity</i> is all types of development, financial and commercial activities carried out by the organization, the result of which is innovation [23]. |

ment Department of OMB. Section II.4.10.4 defines financial statements in the field of innovation activity. According to this document, investment in innovation is the cost included in the calculation of the net cost of supporting systematic creative work that is carried out to increase the stock of knowledge and use such knowledge and practical experience to develop new or improved products and processes, with the expectation of maintaining or increasing national economic productive capacity or generating other benefits in the future [25].

The only source of comprehensive, holistic statistics on the scope of innovation R&D activities performed and funded by departments and agencies in each of the 50 state governments, as well as the government of the District of Columbia and the government of Puerto Rico, is the statistical report "Survey of State Government R&D".

In particular, in the statistical report for the fiscal year 2016, it is stated that innovation activity:

- is aimed at obtaining new results (novelty) that haven't existed before, which can be published in academic publications and ideas that can be patented;
- focuses on original concepts or ideas (creativity) that increase our knowledge of the subject; help us create new products or areas of use;
- is planned and funded (systematic); the process and results are documented; projects are planned and managed;
- results of innovation activity are uncertain (because this has not been done before); solutions are not always obvious or expected; there is a lack of clarity in determining cost, time, or ability to achieve results;
- the result of innovation is useful solutions that can become the subject of transfer; these solutions can be generalized and used in other situations and areas, as well as reproduced [12].

Therefore, we believe that this document expands the content of the innovation criteria defined by the OECD in the Frascati Manual.

According to the FASB Accounting Standards Codification (Topic 730), innovation (R&D) covers the following areas:

- laboratory research aimed at discovering new knowledge;
- search for the use of new research results or other knowledge;
- conceptual formulation and design of possible product or process alternatives;
- testing to find or evaluate alternatives to a product or process;
- modification of the product or process formulation or design;
- design, construction, and testing of prototypes and models of the previous production;
- design of tools, tools, forms, and dies using new technology;

- design, construction, and operation of a pilot plant that does not have the economic scale necessary for a business entity engaged in commercial production;

- engineering activities required to advance product design to a level that meets specific functional and economic requirements and is ready to manufacture;
- design and create tools used to facilitate research and development or components of a product or process that are implemented as part of an innovation activity [11].

According to the Business Research and Development and Innovation Survey conducted and published by the National Center for Science and Engineering Statistics (NCSES), innovation (R&D) involves systematic creative work carried out to increase the stock of knowledge and develop new areas of application of existing knowledge, and includes: a) activity aimed at obtaining new knowledge or understanding without specific immediate commercial use (basic research); b) activity aimed at solving a specific problem or solving a specific commercial problem (applied research); c) systematic work based on research and practical experience that results in additional knowledge aimed at producing new products or processes or improving existing products or processes (experimental development). Innovation activities cover both direct costs (for example, researchers' salaries) and administrative and overhead costs that are related to the activities of companies [20].

Special attention in the context of our research should be paid to the documents of US government organizations devoted to the regulation of innovation in American institutions of higher education. At the same time, the analysis of these documents showed that the same definition of innovation activity is used in higher education as in business, as formulated in the Frascati Manual. In particular, this definition is contained in the financial report for the 2016 fiscal year "Higher Education Research and Development Survey", which contains information on the cost of innovation in American universities and colleges by research areas and sources of funds [21].

Therefore, in contrast to domestic, international legislation and regulations contain a single definition of innovation activity, which, despite its original name – research and development (R&D) – is fully consistent with the essence of the term "innovation activity" used in Ukrainian scientific space.

Conclusions. So, despite interpretations of the term "innovation", which differ in different areas, we note the lack of its unambiguous definition in the modern domestic educational space. In domestic reference sources, the concept of "innovation activity" is broader than in foreign ones, but, in general, it refers to new methods, tools, and products of activity. The search for definitions of the concept of "innovation activity" in Ukrainian academic dictionaries found their

absence in most reference publications in contrast to foreign literature, where this term is most often used.

However, the concept of “innovation activity” exists in the Ukrainian legal framework, in particular in the Law of Ukraine “On Investment Activity” (1991) and the Law of Ukraine “On Innovation Activity” (2002). International legislation and regulations contain a single definition of innovation, which is fully consistent with the essence of the mentioned term in Ukraine. With regard to higher medical education in the USA, the definition of innovation is identical to that formulated in the Frascati Manual.

Concerning the prospects of further research, we are going to analyze scientific and educational works of domestic and foreign scientists regarding the interpretation of the terms “innovation” and “innovation activity”, their use in medical education.

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